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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/592,957	09/15/2006	Minoru Ueda	740675-71	8707
78198 7590 09/02/2008 Studebaker & Brackett PC 1890 Preston White Drive Suite 105 Reston, VA 20191				
EXAMINER				
LE, HUYEN D				
ART UNIT		PAPER NUMBER		
2615				
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09/02/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/592,957

**Applicant(s)**

UEDA ET AL.

**Examiner**

HUYEN D. LE

**Art Unit**

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/CI/CC)  
Paper No(s)/Mail Date 9/15/06 & 9/24/07
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Specification***

1. The abstract of the disclosure is objected to because the abstract should be in one paragraph. Correction is required. See MPEP § 608.01(b).

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
3. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (U.S. patent 6,611,605) in view of Ito (U.S. patent 6,996,246).

Regarding claim 1, Kim teaches a vibration actuator which comprises a housing (50), a magnetic circuit part (40, 42, 44, 46) inside the housing, a diaphragm (22), a voice coil (24) fixed to the diaphragm and inserted into a magnetic gap (80), and a suspension (30) for supporting the

magnetic circuit part. As shown in figures 2 and 4, an outer periphery of the diaphragm (22) is fixed to an open end of the housing to cover the housing.

Kim does not specifically show or disclose a rising portion, an extending surface and a flat surface as claimed in claim 1. However, providing a rising portion and an extending surface at the outer periphery of the diaphragm extending outward along a flat surface formed at the housing are known in the art.

Ito teaches a vibration actuator or a speaker comprising a diaphragm (15, 16, 18) which comprises a rising portion (18c) and an extending surface (18d, 18f) extending outward along a flat surface (14a-2, 14f) formed at the open end of a housing (14). Ito further teaches the flat surface of the housing (14) and the extending surface (18d, 18f) of the diaphragm which are arranged and bonded so as to be parallel as claimed (figures 6A, 6B, 6C, 7A, 7B).

Therefore, it would have been obvious to one skilled in the art to provide a rising portion and an extending portion, as taught by Ito, at the outer periphery of the diaphragm (22) of Kim for the improved frequency characteristics.

Regarding claim 2, Kim in view of Ito teaches a mobile terminal device incorporating the vibration actuator or the speaker (col. 1, lines 6-8 in Kim). It is obvious that the mobile terminal device can receive a call-out signal which initiates vibration of the diaphragm, the magnetic circuit and the suspension, and reset the call-out signal which stops the vibration of the diaphragm by the user.

***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Takahashi (U.S. patent 7,043,045) teaches a construction of an outer periphery of a diaphragm.

Kobayashi et al. (U.S. patent 6,529,611) teaches a construction of a multifunction acoustic device.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUYEN D. LE whose telephone number is (571) 272-7502. The examiner can normally be reached on 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, SUHAN NI can be reached on (571) 272-7505. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Art Unit: 2615

/HUYEN D. LE/

Primary Examiner, Art Unit 2615

HL

August 27, 2008